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## Organizational Dualism and Economic Development

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**D**ualism may be characterized by the coexistence of a "modern" sector and a "traditional" sector within the framework of the same economic system. While remnants of dualism may survive even in the most advanced industrial economies, it is pre-eminently a phenomenon of underdeveloped economies.

The modern sector may be contrasted with the traditional sector in various ways. First, the economic units in the modern sector are highly specialized and are fully integrated with the exchange economy. On the other hand, the economic units in the traditional sector have a low degree of economic specialization; notably, peasant farmers tend to combine "subsistence production" with cash earning activities. Second, the modern sector consists of large-scale enterprises, based on capital-intensive modern technology, while the traditional sector consists of peasant farming and handicraft industries based on labor-intensive traditional technology. Third, the business firms in the modern sector employ labor on a regular basis, paying wages according to the marginal productivity of labor. In contrast, the small economic units in the traditional sector draw their labor supply mainly from within the family, sharing the output of the family farm or business among its members, i.e., paying wages according to the average productivity of labor. Fourth, the large economic units in the modern sector have access to financial institutions and can borrow at relatively low interest rates from the "organized" capital market. On the other hand, the small peasant farmers or handicraft workers in the traditional sector have little or no access to institutional sources of credit and are obliged to borrow at high interest rates from the "unorganized" capital market.

These different points of contrast between the modern and the traditional sectors have given rise to different versions of dualism. The most well-known version, which some writers call *the "dual economy model"*, is really concerned with dualism in the labor market. It contrasts the "islands of high wages" in the manufacturing sector based on modern technology and capital equipment with the sea of traditional agriculture, where subsistence farmers eke out a living on overcrowded small holdings, and goes on to study the process of labor migration from the traditional to the modern sector. Parallel to this, we have the concept of "financial dualism" which focuses attention on the wide gap in

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the levels of interest rates in the "organized" and the "unorganized" capital markets and goes on to study the limited flows of capital funds from the financial institutions to the traditional sector. Next, we have the concept of "technological dualism" which concentrates on the differences in the scale of production and the factor proportions adopted in the modern and the traditional sectors. Finally, for the sake of completeness, we may mention the notion of "sociological dualism" which purports to explain the incomplete specialization of peasant farmers in cash earning activities in terms of their alleged "irrationality" and a failure to follow the normal profit maximizing economic behavior.

This fragmentation of the theory of dualism has left behind a number of unresolved questions both in development theory and in development policy. We may ask: What is the common factor behind the different versions of dualism and how far can we incorporate these different types of dualism into a general conceptual framework embracing the underdeveloped economy as a whole? We may further ask: What are the precise policy implications, if any, of the phenomenon of dualism? This article is an attempt to answer these questions.

Before I proceed, let me explain how I came to be drawn into the subject. Dualism is characterized by the wide price differentials for apparently the same product or factor of production in the traditional and the modern sectors. Most writers on dualism tend to identify these price differentials as signs of "market imperfections" and "distortions" in the allocation of resources between the two sectors. For them, therefore, the main policy implication of dualism is to correct these market imperfections and distortions. But this amounts to forcing the rich and suggestive concept of dualism into the straitjacket of the conventional neoclassical two-sector model. In order to study the distortions, the neoclassical two-sector model adopts as its frame of reference the "perfect competition model" which implicitly assumes that the organizational framework of the economy is already fully developed. I believe that dualism is pre-eminently a phenomenon of an underdeveloped organizational framework, characterized by an incomplete development, not only of the market network but also of the administrative and fiscal system of the government. I regard this underdevelopment of the market and non-market organization as a different type of phenomenon from the "imperfections" of an already fully developed market system and, therefore, I have always been uneasy about identifying the dual economy with the neoclassical two-sector model.

I admit that in any actual situation, the symptoms of dualism and the symptoms of price distortions, in a genuine sense, are mixed up. Nevertheless, we should try to disentangle them, not only for the purpose of clearer analysis but also for the purpose of drawing appropriate policy conclusions. Where dualism is an important factor behind an observed price differential, the habit of identifying it automatically with "price distortions" frequently leads to misguided policies to "correct" these alleged distortions which may not only introduce policy-induced distortions but also may aggravate dualism by repressing the normal development of appropriate economic institutions.

This article falls into two main parts. I shall begin by constructing a conceptual scheme which attempts to bring together the existing versions of dualism, insofar as they are tenable, into a general framework embracing the underdeveloped economy as a whole. I shall also incorporate an additional type of dualism which has not received sufficient attention, viz., dualism in the administrative and fiscal machinery of government in terms of its effective functioning in the modern and the traditional sectors. I shall call the general concept of dualism "organizational dualism" to indicate my belief that it is essentially a phenomenon of an incomplete state of development in the organizational framework of the economic system. I shall illustrate this concept by constructing two stylized models: the first, depicting a "fully organized economy" with no dualism but with distortions in the allocation of resources; and the second, depicting an underdeveloped economy with dualism, in which policy-induced distortions are kept at a minimum to isolate and bring out the phenomenon of dualism.

In the second part of the article, I shall explore the policy implications of dualism, disentangling dualism from the distortions in the allocation of resources. I shall argue that the appropriate policy response to dualism is to find out whether the existing underdeveloped economic framework can be improved. This is mainly a matter of comparing the costs and benefits of investment in social overhead capital, including the "invisible" infrastructure of the marketing, credit and information network. But in part it will also depend on the avoidance of policy-induced distortions, which would not only worsen the allocation of resources but also aggravate dualism by repressing the normal development of economic institutions. I shall conclude by showing why the concept of dualism cannot be forced into the conventional framework of the neoclassical two-sector model.

### Organizational Dualism: A Stylized Picture

We may adapt the "circular flow"-type diagram depicting the transactions between the different sectors of an economy for our purpose of illustrating the degree of tightness or looseness of the organizational framework of that economy. The usual circular flow diagram is concerned with the level of economic activity and the proportions in which it flows between the different sectors, on the assumption that the connecting pipelines are free flowing. For our purpose, we are interested not so much in the level of economic activity as in the functioning of the connecting pipelines themselves: on the question which of them are free flowing and which of them are clogged up, creating the weak links between the sectors concerned and segmenting the economy.

For convenient exposition, we may begin with a stylized picture of a fully organized economy where the pipelines connecting all the sectors are free flowing.

First, we have the sector consisting of business firms, which buys labor services from the wage-household sector, which in return buys consumer goods from the business firms. For the sake of simplicity, we shall leave out the interfirm

transactions within the business sector and we shall also ignore the element of "do-it-yourself" activities within the households. The wage households may be regarded as completely specialized consuming units and the business firms as completely specialized producing units. We then introduce a third sector, the financial institutions, which collects the savings from the households and business firms and in return provides them with loans. Our stylized picture is completed by bringing in the government sector, which collects taxes from the households and the business firms and in return provides them with appropriate public services. The government's fiscal and administrative machinery is assumed to be fully developed and is able to finance public expenditure both by borrowing from the financial institutions and by taxation. Its decisions concerning taxation and expenditure are assumed to be determined by its policy choices alone, and are not limited by administrative constraints. In Figure 1, which provides a stylized picture of a fully organized economy, all the sectors are connected by solid lines to indicate that the marketing and transaction costs, the administrative costs and the information costs have been kept as low as existing technology permits by the full development of the organizational framework.

Our stylized picture of a fully organized economy may be regarded as a crude attempt to represent the organizational framework which characterizes an advanced industrial economy. Accepting this as an approximate representation, it is necessary to point out that a fully organized economy in this sense is not the same as the "perfect competition" model in the usual sense. Both models work with a minimum of "frictions" in terms of transaction and information costs. But while the "perfect competition" model excludes the monopolistic distortions, the fully organized economy attempts to depict the economic organization of an advanced industrial country which may be subject to various distortions introduced by big business corporations, labor unions, and government policies. The real point is that these distortions are introduced in a well-organized manner and without observable price discrepancies. Thus, a monopolist firm may charge a uniform price for its product in all parts of the country, only that this price happens to be above the marginal cost of the product. Similarly, a labor union may insist on "wage parity" for all its members, even if some of its members are less productive than others.

We can now go on to construct our stylized picture of an underdeveloped economy with organizational dualism (see Figure 2).

The modern sector may be regarded as a miniature replica of the fully organized economy which we have just described. We may, therefore, represent it by a box containing the constituent sectors, viz., the wage households, the business firms, the financial institutions and the government, omitting the solid lines connecting the sectors. The modern sector is loosely connected by the broken lines with another box representing the "traditional sector". This consists of a large number of peasant farmers and other small-scale units. We may describe these small scattered economic units as "household firms" since they partake of the character of both wage households and business firms. The household firms maximize their utility like the ordinary wage households; but

Figure 1. A FULLY ORGANIZED ECONOMY:  
Stylized Anatomy of a Developed Country

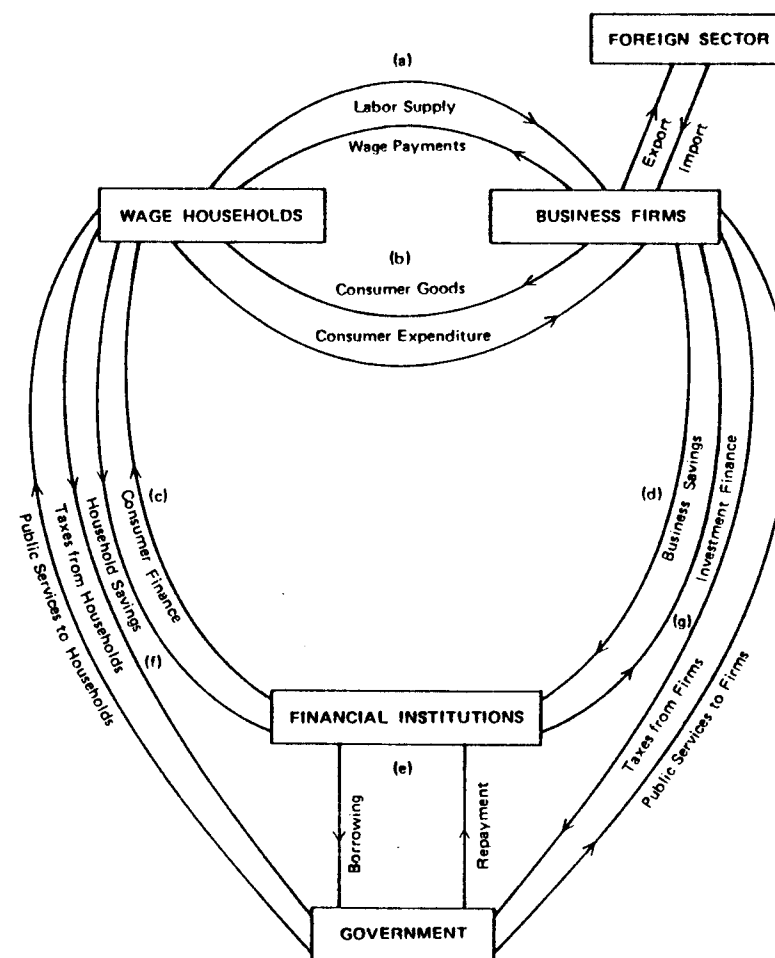
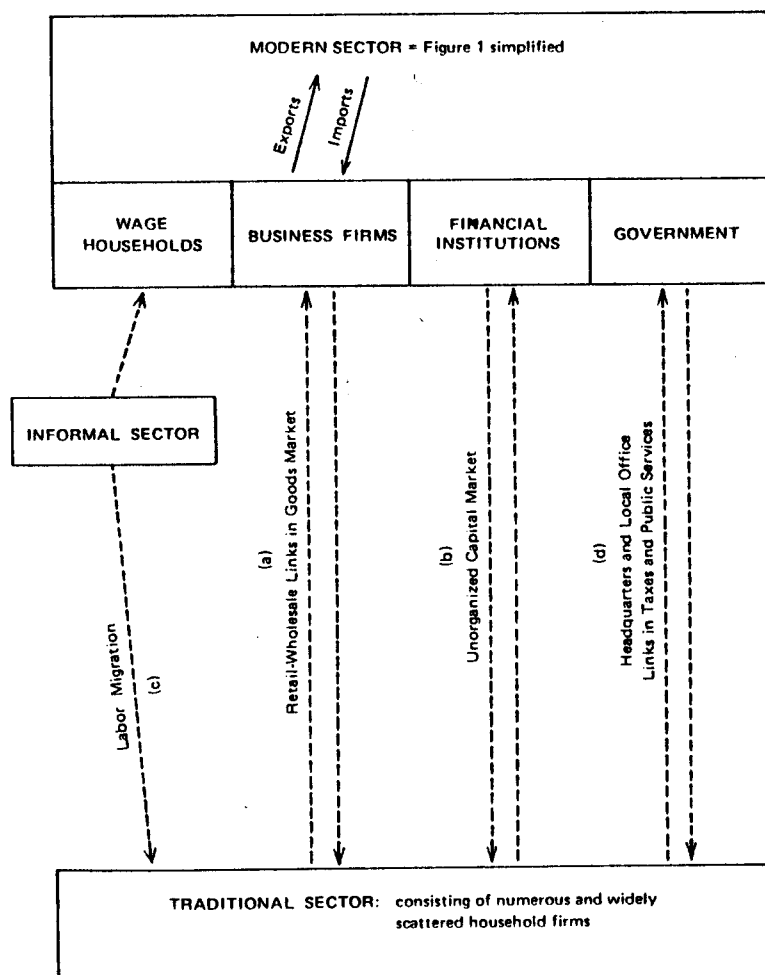


Figure 2. ORGANIZATIONAL DUALISM:  
Anatomy of an Underdeveloped Country



while the budget constraint of ordinary households is their wage income, the budget constraint of household firms is the amount of land, labor and other productive resources possessed by each family. These resources are then deployed to maximize household utility, directly through subsistence production and indirectly through cash earning activities which provide the income to buy consumption goods. The household firms also maximize their "profits" like the ordinary business firms in that they allocate their resources to equate the marginal returns in the alternative uses given by subsistence production, cash crop production, and off-farm wage labor. But unlike business firms which sell the whole of their output, household firms retain a part of their output for their own consumption.

From this analysis of the behavior of household firms in the traditional sector, you will gather that I regard their incomplete entry into the exchange economy, not as a sign of "irrationality" but merely as the result of applying the ordinary maximizing behavior to their local economic circumstances. These include the local prices at which they can buy and sell, the local opportunities for off-farm work, and the risks of price changes in cash crops. The local economic circumstances of a given household firm will depend on the transport costs, transaction costs, information costs, and insurance costs it has to face; i.e., on the effectiveness of the organizational links which connect it with the modern sector and the outside world.

Before we go on to the loose organizational links connecting the modern and the traditional sectors, a word of caution would be in order. We should not equate the modern sector entirely with the manufacturing industry in the urban areas and the traditional sector with peasant agriculture. Some of the business firms in the modern sector may be plantation and mining enterprises located in the countryside. Conversely, some of the small economic units, which organizationally belong to the traditional sector, may be located in towns and be concerned with handicraft industries and other non-agricultural activities. These non-agricultural, small economic units are shown separately as the "informal sector" in Figure 2.

### The Anatomy of the Dual Economy

Figure 2 depicts the loose organizational links shown by the broken lines connecting the modern and the traditional sectors. They illustrate the four types of dualism: (a) in the goods market; (b) in the capital market; (c) in the labor market; and (d) in the administrative and fiscal machinery of the government.

**The Goods Market.** In any underdeveloped country, the markets for final products are likely to be more developed than the markets for the factors of production, and the least developed part of the market system is the market for capital in the traditional sector. Even so, the organization of the goods market is incompletely developed and this may be gauged by three types of price differentials: (i) the differential between the retail buying and selling prices for the

peasant farmers at village level and the wholesale prices of these commodities in the cities; (ii) the regional differences in the price of the same commodity; and (iii) the seasonal price variations of the agricultural products which form a large part of the total national output.

The broken lines (a) connecting the modern and traditional sectors in Figure 2 depict the incomplete development of the wholesale-retail chain in the market for goods. Even in a well-organized economy, the farm-gate price at which the peasant farmers can sell their produce will be less than the wholesale price (or f.o.b. price in the case of exports). The differential will be made up of various items of "marketing costs", such as the cost of collecting the produce in small quantities from a large number of geographically scattered farmers, sorting and "bulking up" the produce, and transporting it to the marketing centers or exporting points. Similarly, in the reverse direction, we would expect the retail village-level prices at which the peasant farmers can buy to be higher than the wholesale (or the c.i.f.) prices of these commodities by the marketing costs. In an underdeveloped economy with higher transport and marketing costs, the retail-wholesale price differential will be wider than in a developed economy with a more effective market organization.

Further, with any given degree of underdevelopment of the market system, the wholesale-retail price differential will be greater for the peasant households located in the remoter districts and the peripheral parts of the market system than for those which are situated nearer to the marketing centers. Thus, the prevalence of subsistence production in the traditional sector in many underdeveloped countries may be explained in terms of these two types of differential marketing and transport costs rather than in terms of "economic irrationality" and "sociological dualism".

**The Capital Market.** Leaving the other types of price differentials in the goods market to be discussed later, let us now go on to "financial dualism" which is manifested in the wide gap in the levels of interest rates in the organized and the unorganized capital markets. This differential in the interest rates may be partly accounted for in terms of the differences in transaction and information costs of lending at the wholesale and retail levels, analogously to our analysis of the goods market. But now we shall have to add the insurance premium for differential risks. The administrative costs to a bank of processing large loans to a small number of large business firms with established creditworthiness is clearly much less than the administrative costs of lending the same sum total of money in small amounts to a large number of small borrowers. Moreover, the information costs of assessing the creditworthiness of the small borrowers would be prohibitive. Thus, it is not surprising that the modern-type banks with heavy overhead costs in opening branches have not penetrated very far into the unorganized capital market of the traditional sector. The interest differentials between the organized and the unorganized markets might have been reduced if the moneylenders, with their lower overheads and a more intimate knowledge of local conditions, had been permitted to become full-fledged middlemen,

borrowing wholesale from banks and lending retail to small borrowers. But this has rarely happened since the moneylenders have limited access (or are debarred by regulations from having access) to the modern banking system. Being obliged to rely largely on their own financial resources, the interest rates charged by the moneylenders are not only higher than those in the organized market but also tend to show wide dispersions around a high average rate, reflecting local circumstances. Thus, the unorganized capital market tends to be highly fragmented.

The high transaction and information costs restricting the flow of funds from financial institutions to the traditional sector are depicted by the broken lines (b) in Figure 2. The broken line in the reverse direction is added to show that the transactions and information costs are equally high in the collection of small savings from the traditional sector and that the small savers are likely to receive lower rates of interests on their savings after deducting these costs. This is why they tend to hoard gold and jewelry rather than lend their savings to organized financial institutions.

In this part of the article, I have tried to keep policy-induced distortions to a minimum so as to bring out the concept of dualism, as it were, in its natural state. Even so, I cannot avoid adding that inflation and the policy of fixing low rates of interest would tend to undermine the already tenuous financial links between the modern and the traditional sectors. In inflationary conditions, it would be rational for small peasant farmers to hoard appreciating assets, such as gold and jewelry, instead of placing their savings with the financial system at low nominal rates of interest, yielding negative real returns.

**The Labor Market.** Let us now turn to dualism in the labor market, shown by the contrast between the high wages in the modern sector and the low level of earnings in the traditional sector. At first sight, it looks as though my approach to dualism, in terms of weak organizational links and differential transaction, transport, and information costs, has broken down completely when applied to the labor market. One cannot seriously maintain that the higher wages in the modern sector are due to the cost of migration from the countryside to the towns. On the contrary, despite all these costs, including the cost of waiting to get a job, migrant labor has flooded into towns, lured by the prospect of high wages. It has gone either to the "informal sector" as a staging post or directly to the modern sector, adding to the open unemployment there. It seems that in the labor market, at least, distortions in the usual sense are more important than dualism in my sense as the explanation of the wage differentials. These distortions include not only the distortions within the labor market, such as the minimum wage laws and collective bargaining, but also the distortions introduced by high protection and subsidies given to the modern manufacturing sector which enable it to pay high wages out of artificially inflated profits.

But the wage differential in the labor market serves to bring to the surface one genuine element of dualism in my sense, which I have so far treated implicitly. Dualism is characterized by the price differential for the "same" commodity

or factor of production in the two sectors. But what do we mean by the word "same"? If we interpret it strictly to mean a homogeneous product or factor, then in a "frictionless" economy, all price differentials for the same article will be price distortions. So far my argument has been that, even if we could assume the products and the factors of production in the modern and the traditional sectors to be homogeneous in a strict sense, the price differentials in the two sectors may not be genuine price distortions because of the various costs required to overcome the "frictions" in an underdeveloped economic framework. Dualism in the labor market brings out another important source of the price differential, viz., the quality of the product or factor of production is not homogeneous in a strict sense. The unskilled labor in the modern sector is not the same as the raw labor from peasant agriculture. Thus, even if we would remove all the artificial distortions in the labor market, wages in the modern sector will tend to be higher than in the traditional sector. The differences in the costs of living in the towns and countryside may be important, but labor will be employed at a higher wage rate in the modern sector only if its productivity is higher than the wage necessary to cover the higher cost of living.

The qualitative differences in labor in the modern and the traditional sectors contribute to the wage differentials between these sectors in two ways. First, there are information costs of selecting and recruiting the right type of person with the appropriate physical and mental qualities for employment on a regular basis in the modern sector. Second, having found the right type of person, it would be necessary to retain him by paying an appropriate quality premium according to his ability and experience. In an underdeveloped economy with a patchy information network and inadequate facilities for training and education to transform the raw labor from the traditional sector into suitable material for a regular wage economy, large elements of labor market dualism would remain even if we could eliminate all the artificial wage distortions. Thus, it is in the interest of business firms in the modern sector to pay higher wages for the "same" type of labor to retain a stable force of experienced workers than it would be for business firms in the advanced countries which can draw upon a larger pool of experienced workers. As we shall see, these qualitative differences are also important elements in understanding dualism in other markets, and we cannot fully understand some types of dualism without bringing in the qualitative differences in the *same* commodity produced by large and small-scale economic units.

**The Administrative and Fiscal Machinery of the Government.** Finally, we come to dualism in the administrative and fiscal machinery of the government. We have seen that in the private sector business firms and banks located in the modern sector have to operate through a series of middlemen making up the retail-wholesale links to reach the myriad small economic units widely scattered in the traditional sector. Similarly, the headquarters of the government, located in the modern sector, has to operate through a series of its own "middlemen" making up the "retail-wholesale links" in the administration via the district and

township offices to get at the small economic units at the village level. Just as we have illustrated the incomplete development of the retail-wholesale links in the goods market and capital market by the broken lines (a) and (b) in Figure 2, we may also illustrate the dualism in the administrative and fiscal apparatus of the government by the broken lines (d) in Figure 2. In an underdeveloped country, the effectiveness of general administration tends to decrease as we move away from the headquarters to the remoter peripheral areas. This is paralleled by the dualism in the fiscal apparatus. Normally, the government finds it difficult to tax the small economic units in the traditional sector, except by imposing customs duties on imports and taxes on exports of peasant products. In the reverse direction, the government would have to incur a large differential in administrative costs to provide the traditional sector with the same level of public services as the modern sector for familiar reasons, such as the scattered nature of the recipients of services and poor transport and communications, and the difficulties of attracting teachers and doctors to the rural areas. Thus, even if the government were to spend the same amount per head in providing public services to the rural and the urban population (which, of course, it never does in practice), the quality of these services would be distinctly poorer in the traditional sector compared with the modern sector. Therefore, dualism in the government's administrative and fiscal machinery must be recognized as an essential element in the total picture of dualism, imposing an organizational constraint on the capacity to implement policy.

This concludes my first task in this article, which is to bring together the various versions of dualism into a comprehensive conceptual framework of organizational dualism embracing the underdeveloped economy as a whole. I have explained why I have rejected the notion of "sociological dualism" and I shall later have to say more about "technological dualism". For the rest, my picture of dualism is sufficiently complete to enable me to consider the policy implications of the phenomenon of dualism.

### Dualism and Distortions

Dualism, as we have now repeatedly seen, is characterized by the price differentials for apparently the same product or factor of production in the two sectors. The policy issue is whether these price differentials can be automatically regarded as signs of "market imperfections" leading to "distortions" in the allocation of resources between the two sectors. In any actual situation, dualism in my sense and distortions in the conventional sense tend to be mixed up. The question is how to disentangle them for purposes of practical policy.

Let us start from the easiest case which I have held over, viz., the regional price differences for the same commodity in different parts of the country. To simplify the argument, let us assume that we are dealing with a physically homogeneous commodity. To find out whether these regional price differences are genuine price distortions, we should first have to inquire whether there is free entry into the commodity trade and no artificial restrictions on the free

movement of the commodity imposed by private monopoly, or more commonly, by government regulations. Those artificial restrictions will create genuine distortions, in the sense that they can be removed without any real resource costs in economic terms (although there may be "political costs") to obtain the consumers' gains through a greater uniformity of regional prices. But suppose there are no artificial restrictions on free entry and on the free movement of the commodity. Then the most likely cause of regional price differences will be the transport costs. The appropriate course of action would then be to compare the costs of improving the transport system with the benefits of reducing regional price differences. If the benefits are expected to be larger than the costs, then there should be more investment in the transport system. If, on the other hand, the costs are larger than the benefits, the existing situation would represent the best attainable position with the existing technology in transport and the given volume of traffic in the commodity. In such a case, there would be no call for government intervention to "correct" the regional price differentials. For instance, if the government were to fix the price of the commodity at a level which does not cover transport costs, the inflow of the commodity into the deficit areas would stop or a black market would develop.

Few would disagree with this commonsense approach to regional price differentials in terms of underdevelopment of the transport system. But this case has been spelled out fully, because there is considerable resistance to the application of the same type of analysis to the analogous cases of retail-wholesale price differentials and seasonal variations in the price of an agricultural product. The cases are analogous, because the retail-wholesale price differential reflects the costs of moving the commodity in the economic space which is analogous to the geographical space, and the seasonal price differential reflects the cost of moving the commodity through time, by storing it. Yet these price differentials are commonly regarded as "price distortions" due to the monopolistic activities of middlemen and speculators. Similarly, the interest rate differentials in the "organized" and the "unorganized" capital markets are attributed to the monopolistic influences of moneylenders.

The policy implications of these cases are analogous to the case of the regional price differential. First, we should ascertain whether there are any artificial restrictions on free entry into trading and moneylending. In most cases, we shall find that there are no restrictions on free entry into these occupations except those imposed by the government. Second, if despite this, the government feels that the price differentials between the modern and the traditional sectors are too wide, then the appropriate course of action is to introduce alternative marketing and credit facilities to compete with private middlemen and moneylenders. If these government-sponsored agencies could reduce the price differentials without subsidies, then there would have been an improvement in the organizational framework analogous to a successful improvement of the transport system. If, on the other hand, the government-sponsored agencies are not able to provide cheaper and more effective marketing and credit facilities, then the existing private system of retail-wholesale trading and moneylending

should be left alone as the best available alternative in the existing situation of an underdeveloped organizational framework.

It is at this point that the practical dangers of confusing dualism with distortions arise. The governments of underdeveloped countries are not slow to intervene in the traditional sector by setting up their own agencies, such as agricultural marketing boards and cooperative marketing and credit societies. But when these new institutions turn out to be unsuccessful in competing with private middlemen and moneylenders, then the usual reaction is to suppress the private trading and credit network and to establish government monopolies in these markets. Hence, the alleged monopolistic activities of private middlemen and moneylenders are now supplanted by genuine government-sponsored monopolies. These monopolies, notably the state agricultural marketing boards, inflict a deadweight burden of ineffective economic organization in addition to the monopoly profit which the government extracts from peasant producers of export commodities. In addition to increasing losses from the misallocation of resources, government policies of introducing monopolies and price controls tend to aggravate dualism by repressing the normal growth of market institutions.

I have already mentioned in passing how the fixing of too low a rate of interest payable to the small savers in the traditional sector, particularly in inflationary conditions, tends to discourage the growth of financial institutions by discouraging small savers from placing their savings in the financial system and diverting these savings into the hoarding of gold and jewelry and other appreciating assets. Much has been written about this "repression" of financial institutions. But what is less well known is that policy-induced distortions will also introduce a similar type of repression of economic institutions in other markets.

Let me illustrate this effect in relation to the market for goods. Suppose that the government fixes the price of a staple commodity, say rice, below its equilibrium market price. The most obvious effect is that it will reduce the supplies brought to the market and thereby contract the total size of the market for the commodity. What is frequently overlooked is that an agricultural commodity, whether rice or cotton, is by no means a homogeneous commodity and tends to have natural differences in qualities and grades. Some of the specialized markets for different grades may not be well developed as yet because the existing volume of trade in these grades is too small to cover the costs of grading and organizing separate markets for them. One of the important ways in which the market organization can develop is not merely by expanding the size of existing markets for broad classes of commodities, but by promoting the growth of specialized markets, discriminating between the finer grades of the commodity, according to consumers' preferences or specialist technical requirements in the case of raw materials. Now the policy-induced distortions, by contracting the total size of the market for the commodity, would tend to repress the development of the specialized markets which may be important for the further development of the economy through a more intensive specialization and division of labor.

Specialization can take place not only in the market organization for goods but also in the markets for different types of loans and for different types of labor.

I shall round off this section by looking at dualism and distortions in the labor market. We have already seen that the higher level of wages in the modern sector, usually about twice as high as in the traditional sector, cannot be explained simply in terms of the cost of migration to the towns. In the labor market, at least, distortions introduced by minimum wage laws and trade union pressures may be quite important. The "Lewis model", which is the source of much of the subsequent writings on the dual economy model, focuses attention on a formal distortion, introduced by the fact that while labor is paid according to its marginal product in the modern sector, it is paid according to its average product in traditional agriculture. It is argued that this leads to *too little* labor being transferred to the modern sector because it is obliged to recruit labor from agriculture above its true social opportunity cost measured by the forgone output in agriculture which may be very low. To correct this distortion, Lewis advocated granting protection to the modern manufacturing sector. In the light of subsequent experience, this ingenious argument is not very convincing, and most economists nowadays would be inclined to believe that the labor market tends to be distorted in the opposite direction, i.e., *too much* labor has been attracted to the modern sector lured by the prospects of earning high wages fixed institutionally, contributing to urban unemployment. Thus, the commonsense conclusion would be to try to reduce the wage differential insofar as it is created by artificial causes such as the monopoly power of trade unions and minimum wage laws.

But we have also seen that there may also be a substratum of natural causes for the wage differential due to qualitative differences in the type of labor in the two sectors. Despite this, the Lewis conclusion that the manufacturing sector should be given tariff protection does not follow. As I have explained, the residual wage differential may reflect the information costs of selecting and recruiting the right type of labor and the costs of training and "skilling" the raw labor from the traditional agricultural sector and transforming it into a suitable type of labor required for the modern manufacturing industry. There is, thus, some ground for subsidizing the cost of training labor if it can be shown that private entrepreneurs would not have sufficient incentive to incur the cost of training for fear that the workers, after being trained, would leave their firms for other occupations. Hence, the argument for subsidizing the cost of training labor arises from the inability of private entrepreneurs to "internalize" the social benefits they would be creating. This is, however, different from the Lewis argument for tariff protection which would introduce an additional policy-induced distortion and may even defeat the aim of expanding industrial employment by encouraging the protected industries to use their artificially high profits to employ excessively capital-intensive methods of production.

In addition to these defects, the "Lewis model" (though perhaps not Lewis himself) tends to encourage the habit of treating the traditional sector as a "black box" which exists merely to provide "unlimited supplies of labor" to the modern

sector. Our model of organizational dualism serves to show that the amount of "surplus labor" available from the traditional sector is determined not only by the land-man ratio and agricultural technology but will also depend significantly on the development of the organizational framework in the traditional sector. The labor-market dualism, which the exponents of the "Lewis model" regard as the essence of the dual economy model, is after all only one element in the total picture of organizational dualism. The members of a peasant household in deciding whether to migrate to the town will weigh this possibility against the alternative economic opportunities in the traditional sector, viz., that of using available labor in cash crop production, subsistence production, and off-farm work in the locality. This means that although dualism represents an underdeveloped organizational framework, there is some interaction among the different types of dualism in the markets for goods, capital, and labor.

#### Dualism and the Neoclassical Two-Sector Model

Much of the confusion between dualism and the distortions in the allocation of resources arises, I believe, from a conscious or an unconscious identification of dualism with the neoclassical two-sector model. I should, therefore, like to conclude by explaining a little further why dualism and the neoclassical two-sector model should be kept separate.

The neoclassical two-sector model is concerned with two different commodities, X and Y, each produced by two factors of production, say, labor and capital equipment. Each of the commodities and factors of production is assumed to be perfectly homogeneous. X and Y have two different production functions given by the existing technology. Let us say that X is labor-intensive and Y is capital-intensive, i.e., when faced with the same set of factor-price rates, X will be produced with relatively more labor to capital and Y will be produced with relatively more capital to labor.

Let me now remind you of the familiar conditions of the optimum allocation of resources in the neoclassical two-sector model which are relevant for our purpose.

First, with the given resources and technology, the economy will not be on its production frontier producing the maximum possible combinations of X and Y, unless the marginal rate of substitution between labor and capital is equal in the two sectors. This is achieved automatically under free market conditions, when the two sectors face a uniform set of factor prices. If that is not fulfilled, because, say, wages are higher in one sector, then the marginal productivity of labor will be higher in that sector than in the other sector, and output can be increased by reallocating labor until the marginal productivity of labor is equal in both sectors.

Second, with the given production possibility frontier, the economy will not achieve a maximum level of economic welfare in terms of the satisfaction of the given consumers' preferences, unless the marginal rate of substitution



between X and Y for the consumers is equal to the marginal technical rate of transformation between X and Y. Otherwise, too little or too much of one or the other of the commodities will be produced. A variant of this condition relevant for our purpose is that the maximum possible level of economic welfare will not be attained unless all consumers are faced with a uniform set of prices for the two commodities.

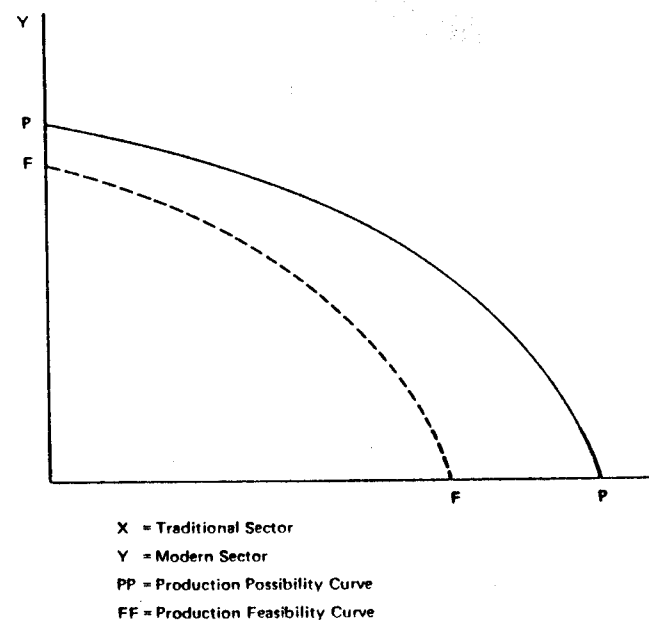
The model is designed to locate the deviations from the optimum created by distortions in the allocation of resources and to prescribe appropriate policies to correct them. Thus, suppose that there is a distortion because factor prices are different in the two sectors. Insofar as this is due to restrictions on the free mobility of the factors, it can be corrected "costlessly" by removing the restrictions. The factor markets will then adjust in a "frictionless" manner, given the standard assumptions of the "perfect competition model", viz., perfect mobility, perfect knowledge, and perfect flexibility of factor prices. If the distortion is due to the existence of externalities, this can be corrected by appropriate taxes and subsidies. Again, it is supposed that "lump-sum" taxes can be collected without any administrative costs and without introducing policy-induced distortions, and that the subsidies can be applied to the source of distortion in a "costless" manner without any administrative inefficiency. Thus, the neoclassical two-sector model presupposes the existence of a fully developed organizational framework consisting of a fully developed market system combined with a fully developed administrative and fiscal system of the government.

By now it should be obvious, in general terms, why the neoclassical two-sector model is so ill-adapted to cope with dualism which is pre-eminently a phenomenon of an underdeveloped organizational framework characterized by an incomplete development not only of the market system but also of the administrative and fiscal system of the government. However, let me add some specific points of contrast to illustrate the difference between the two concepts.

First, with the given resources and technology, the neoclassical two-sector model will be on its production possibility frontier in the absence of distortions, because it is implicitly assumed that there are no organizational or institutional constraints on production. Now even if we could equate the X sector with the "traditional sector" and the Y sector with the "modern sector", an underdeveloped economy would not be on its production possibility curve after the distortions are removed. Rather, it would be on a lower curve which we may call the production feasibility curve because of additional constraints imposed by the underdeveloped organizational framework. Further, the "frictions" in the form of transport, transaction and information costs are not uniformly distributed in an underdeveloped economy; they occur in a well-defined pattern, showing a higher degree of concentration along the weaker links connecting the modern and the traditional sectors and also within the traditional sector itself. Thus, if we permit ourselves to draw a production feasibility curve for a dual economy, with the X coordinate measuring the output of the traditional sector and the Y coordinate measuring the output of the modern sector, the gap between this

curve *FF* and the conventional production possibility curve *PP* will become wider as we move in the direction of increasing the output of the traditional sector X (see Figure 3).

Figure 3. PRODUCTION POSSIBILITY AND FEASIBILITY CURVES



The neoclassical production possibility curve *PP* is drawn on the assumption that the existing technology is "costlessly" embodied in the production functions for the two commodities. But the traditional sector producing X will suffer from a wider "technology gap" because of the greater costs of transmitting and diffusing the existing technological knowledge to a large number of small

producers scattered within this sector. This is the formal reason why the gap between the production possibility curve *PP* and the production feasibility curve *FF* will become wider as we move along *FF* in the direction of increasing the output of *X* in the traditional sector.

Second, the neoclassical model also assumes that the production functions for both sectors are equally well developed. It is only on this basis that we can deduce a distortion in the factor markets when the two sectors face a different set of factor prices so that, geometrically speaking, the two production functions are not tangential to each other. But the traditional sector in a dual economy does not have a coherent production function in the ordinary sense. As we have seen, the household firms in the traditional sector maximize their utility or income by allocating the resources they each possess relatively to the prices of factors and products they each face in their own localities. These local prices will vary from place to place. Thus, it is not only that interest rates are higher and wages are lower on the average in the traditional sector compared with those in the modern sector, but there is also a wider range of dispersion around the average levels in the traditional sector. This indicates that the traditional sector tends to be broken up into a large number of narrow and segmented local markets. Thus, strictly speaking, there is no such thing as *the* production function for the traditional sector in the same sense as there is the production function for a given commodity *X*. This means that we cannot really draw a production possibility curve for a dual economy model. This is why a diagram such as Figure 3 should be treated with caution.

Finally, the neoclassical model is concerned with two entirely different commodities. Therefore, one would expect that they would be produced by two different technologies and that even with a uniform set of factor prices, they would be produced with different factor proportions. On the other hand, the notion of "technological dualism" focuses attention on the different scale of production and factor proportions adopted in the modern and traditional sectors and regards this as a problem requiring attention. Here, the problem arises, not because the two sectors are producing two entirely different commodities but because they are producing the same or a similar commodity. This type of dualism can be seen in "bimodal" agriculture where large-scale farming and peasant farming coexist, producing the same crop, and in some primary export products, such as rubber, where plantations and smallholders produce the same export product. To some extent, it also occurs in the manufacturing industry for a wide range of consumer goods, with large factories producing more expensive and better quality products and small handicraft industries producing cheaper and lower quality products.

The problem raised by technological dualism has not been clearly defined by its exponents but may be interpreted in two ways. First, we may regard it as consisting in the technological backwardness of small-scale producers because of the greater costs of transmitting and diffusing the available technological knowledge among a large number of widely scattered small producers. This can be subsumed under the general heading of the underdeveloped organizational

framework. But the problem here is not merely a matter of improving the information network to transmit better technology; it must also include a wider range of improvements in marketing and credit facilities to provide the small producers with the necessary economic incentives to adopt the better technology. Second, we may interpret the problem of technological dualism as consisting in the adoption of excessively capital-intensive and large-scale methods of production induced by government policies of providing subsidized capital and foreign exchange to encourage sophisticated modern industry. In this case, the problem arises from policy-induced distortions in the capital market which should be corrected. Thus, the concept of technological dualism does not introduce any new analytical issues into my analysis. But it has the useful purpose of reminding us that dualism means not only the coexistence of a modern and a traditional sector within the same economic system but also frequently within the same industry. This provides us with the final reason why dualism cannot be forced into the neoclassical two-sector model.

#### Concluding Remarks

I have now completed my two basic tasks of (i) bringing together the various existing versions of dualism into a general conceptual framework of organizational dualism embracing the underdeveloped economy as a whole and (ii) clarifying the policy implication of dualism which is concerned with the problem of improving the organizational framework of the underdeveloped economy, distinguishing it from the policy implication of the neoclassical two-sector model which is concerned with correcting the distortions in the allocation of resources in an already fully developed economic framework. But I have also pointed out how dualism and distortions may interact with each other, with policy-induced distortions aggravating dualism. My analysis is capable of further extensions. My model of organizational dualism may be extended to an open-economy setting, bringing out the limitations of the standard neoclassical theory of international trade when applied to an underdeveloped economy. My concept of dualism also has some relevance for the perennial methodological debate: How far is the standard "western" economic theory applicable to the underdeveloped countries? But these subjects are too large to be included within the compass of a single article.